

A NEW SPECIES OF SUBGENUS *ZEUGODACUS* HENDEL (DIPTERA, TEPHRITIDAE) FROM CHINA

ZHANG Nan-Nan¹, CHEN Jia-Hua¹, GAO Shi-De²

1. Fujian Agriculture and Forestry University, Fuzhou 350002, China

2. Yunnan Institute of Tropical Crops, Jinghong 666100, China

Abstract The subgenus *Zeugodacus* Hendel of China is revised. One new species *Bactrocera* (*Zeugodacus*) *proprescutellata* sp. nov. is described. A key to 20 species of subgenus *Zeugodacus* Hendel is given. The specimens are deposited in Fujian Agriculture and Forestry University.

Key words Diptera, Tephritidae, *Zeugodacus*, new species, China.

The subgenus *Zeugodacus* Hendel belongs to the genus *Bactrocera* Macquart (Diptera, Tephritidae). In China, 18 species of *Zeugodacus* Hendel were recorded by Wang in 1996. Wang (2008) added one species from Yunnan. This paper deals with the results of an extensive fruit-fly survey in Yunnan, Guangxi, Guangdong, Sichuan, Jiangsu, Guizhou, Fujian, Hunan, Hubei, Jiangxi, Xinjiang during 2005–2010, a total of 20 species of the subgenus *Zeugodacus* Hendel are presently recognized, one new species was found and described here.

Zeugodacus Hendel, 1927

Dacus (*Zeugodacus*) Hendel, 1927: 26; Hardy, 1955: 436; Drew, 1972: 16. Type-species: *Dacus caudatus* Fabricius, 1805, by original designation.

Zeugodacus; Shiraki, 1933, 78; Perkins, 1937: 55, 1938: 137; May, 1963: 50.

Diagnosis. This subgenus is characterized by the posterior surstylar lobe elongate and abdominal sternum of male slightly concave on posterior margin; pecten of cilia present on tergum 3 of male and supernumerary lobe of wing present; humeral bristles absent; generally with 2 pairs of scutellar setae; anterior supra-alar and prescutellar acrostichal setae present. In addition, the East Asia of subgen. *Zeugodacus* Hendel usually have 3 postsutural yellow vittae on scutum.

Remarks. This genus is similar to subgenus *Parazeugodacus*, but differ from the latter in the supernumerary lobe of wing present.

Key to species of subgenus *Zeugodacus* from China.

1. Two pairs of scutellar setae 2
- One pair of scutellar setae 15

2. Scutum with 3 postsutural yellow vittae; costal band present 3
- Scutum with 2 short postsutural yellow vittae extending to about a line of anterior supra-alar; costal band absent
 *B. (Zeugodacus) abbreviata*
3. Scutellum with brown to black spot at apex 4
- Scutellum entirely yellow except for a narrow dark band at base ...
 10
4. Wing with a brown to dark brown mark over crossvein r-m; face almost entirely black except for lateral margins yellow; costal band slightly widened at apex of wing *B. (Zeugodacus) nigrofascies*
- Wing without brown to dark brown over crossvein r-m 5
5. Scutum lacking presutural median yellowish brown stripe 6
- Scutum with a presutural median yellowish brown stripe
 *B. (Zeugodacus) ambigua*
6. Face with 3 longitudinal black stripes; scutum with a rather small black spot at apex *B. (Zeugodacus) lipsanus*
- Face with 2 black spots 7
7. Wing without brown mark over crossvein dm-cu 8
- Wing with a prominent brown mark over crossvein dm-cu; scutellum with large black spot at apex; apical 1/3 of femora black
 *B. (Zeugodacus) arisanica*
8. Facial black spot round or oval 9
- Facial big black spots triangular, almost connected together; costal band confluent with R2 + 3 and gently widened at apex of wing ...
 *B. (Zeugodacus) proprescutellata* sp. nov.
9. Costal band not narrowed in cell r2 + 3; femora entirely yellow, fore femur each with a small brown spot on posterior surface; mid and hind femora tinged with dark brown at apex; oviscap reddish brown to dark brown *B. (Zeugodacus) scutellata*
- Costal band sharply narrowed or almost interrupted in cell r2 + 3; abdomen predominantly black; all femora broadly blackened at apex; oviscap entirely black *B. (Zeugodacus) scutellaris*
10. Face entirely yellow 11
- Face with 2 black spots or 1 transverse black band 12
11. Scutum with yellow on middle portion; crossvein dm-cu not marked with brown *B. (Zeugodacus) okunii*
- Scutum almost entirely black except for 3 postsutural yellow vittae; crossvein dm-cu marked with brown
 *B. (Zeugodacus) mundus*
12. Costal band not extending to end of vein M; no brown mark over

- crossvein dm-cu 13
 Costal band extending to end of vein M; with a brown mark over crossvein dm-cu *B. (Zeugodacus) synnephes*
13. Face with 2 black spot on sides; costal band obviously expanded into a large spot at wing; oviscape relatively short, subequal or equal in length to tergites 4–5 14
 Face with a transverse black band; costal band slightly widened at apex of wing; oviscape relatively long, equal in length to tergites 3–5 *B. (Zeugodacus) caudata*
14. Scutum predominantly reddish brown; wing with an apical brown spot almost filling apex of cell r4 + 5; abdominal tergite 3 lacking medial black stripe *B. (Zeugodacus) rubellus*
 Scutum with predominant black marking; wing with an apical brown spot occupying about upper 1/2 of cell r4 + 5; abdominal tergite 3 with a medial black stripe *B. (Zeugodacus) tau*
15. Scutellum with a broad median black stripe extending over the disc; costal band widely interrupted in cell r2 + 3
 *B. (Zeugodacus) adusta*
 Scutellum entirely yellow except for a narrow dark band at base or with a black spot at apex 16
16. Wing with a brown band over crossvein dm-cu 17
 Wing without a brown band over crossvein dm-cu 18
17. With 3 pairs of frontal setae; crossvein r-m typically covered with a narrow pale brown to brown mark ... *B. (Zeugodacus) cucurbitae*
 With 2 pairs of frontal setae; crossvein r-m not covered with dark mark *B. (Zeugodacus) stemomus*
18. Scutum with 3 postsutural yellow vittae 19
 Scutum with only two lateral postsutural vittae, face with 2 brown to black crossbands; scutellum entirely yellow; costal band widely interrupted in cell r2 + 3 *B. (Zeugodacus) cilifera*
19. Face almost entirely black; scutellum usually with a small black spot at apex; costal band completely extending to apex of wing; mid femora black except for basal 1/3 yellow and hind femora black with basal 1/2 yellow *B. (Zeugodacus) diaphora*
 Face with a broad black band; mid femora black with basal 1/2 yellow and hind femora black with basal 3/4 yellow
 *B. (Zeugodacus) proprediaophora*

***Bactrocera (Zeugodacus) proprescutellata* sp. nov.**
 (Figs 1–4)

Description. Male, body length 6.0–6.9 mm.

Head. Vertical length 1.22–1.32 mm. Fulvous with fuscous around orbital setae and on anteromedial hump; orbital setae black; 1 *s. or.*, 3 *i. or.*; lunule fuscous brown. Ocellar triangle black. Vertex fuscous black. Face with a pair of big triangular spots, almost connected together (Fig. 1). Gena fulvous, black subocular spot present, black seta present. Occiput fuscous black, yellow along eye margins. Occipital row with 5–8 dark setae. Antennae with segments 1 and 2 fulvous, segment 3 fulvous with fuscous on apex and outer surface. Arista black (fulvous basally). Length of segments: 0.12–0.15 mm; 0.25–0.27 mm; 0.58–0.66 mm.

Thorax. Scutum (Fig. 2) black with 3 yellow postsutural vittae. Pleural areas black except brown below postpronotal lobes. Yellow markings as follows:

postpronotal lobes; notopleuron; mark along transverse suture on each side; narrow sized mesopleural stripe slightly wider than notopleuron dorsally; anatergite (posterior apex black); anterior 3/4 of katatergite (remainder black); postnotum black. Scutellum yellow with a black spot at apex. Setae: *sc.* 4; *presc.* 2; *ia.* 1; *p. sa.* 1; *a. sa.* 1; *mpl.* 1; *npl.* 2; *scp.* 4; all setae well developed and black.

Wings (Fig. 2). Length 5.1–5.8 mm; cells bc and c colourless; cell br with microtrichia anteriorly, but clear posteriorly; a fuscous costal band confluent with R2 + 3 and gently widened at apex of wing; a narrow dark anal streak ending well before wing margin; dense microtrichia around A₁ and CuA₂; supernumerary lobe of medium development.

Legs (Fig. 3). Fore femora fulvous with a big spot on 2/5 of outer apical surface, fulvous apically and basally, with rows of long black setae on dorsal surface; apical 2/5 of mid femora black predominantly; apical 1/3 of hind femora black. Fore tibiae fuscous black, mid tibiae fulvous, hind tibiae black.

Abdomen (Fig. 2). Oval; terga free; pecten present on tergum 3; tergum 1 marked with black on anterior and lateral margins; tergum 2 orange-brown with a narrow dark transverse band across anterior portion reaching lateral margins; tergum 3 orange-brown with a broad dark transverse band across anterior portion; terga 4–5 marked with black on lateral margin; terga 3 to 5 predominantly black with a narrow medial longitudinal dark band over terga 3 to 5. Posterior lobe of surstylus long (Fig. 4).

Female. Unknown.

Etymology. The specific epithet is from Latin *prope*, near; combined with *scutellata*, referring to the close relationship with *B. (Zeugodacus) scutellata* (Hendel).

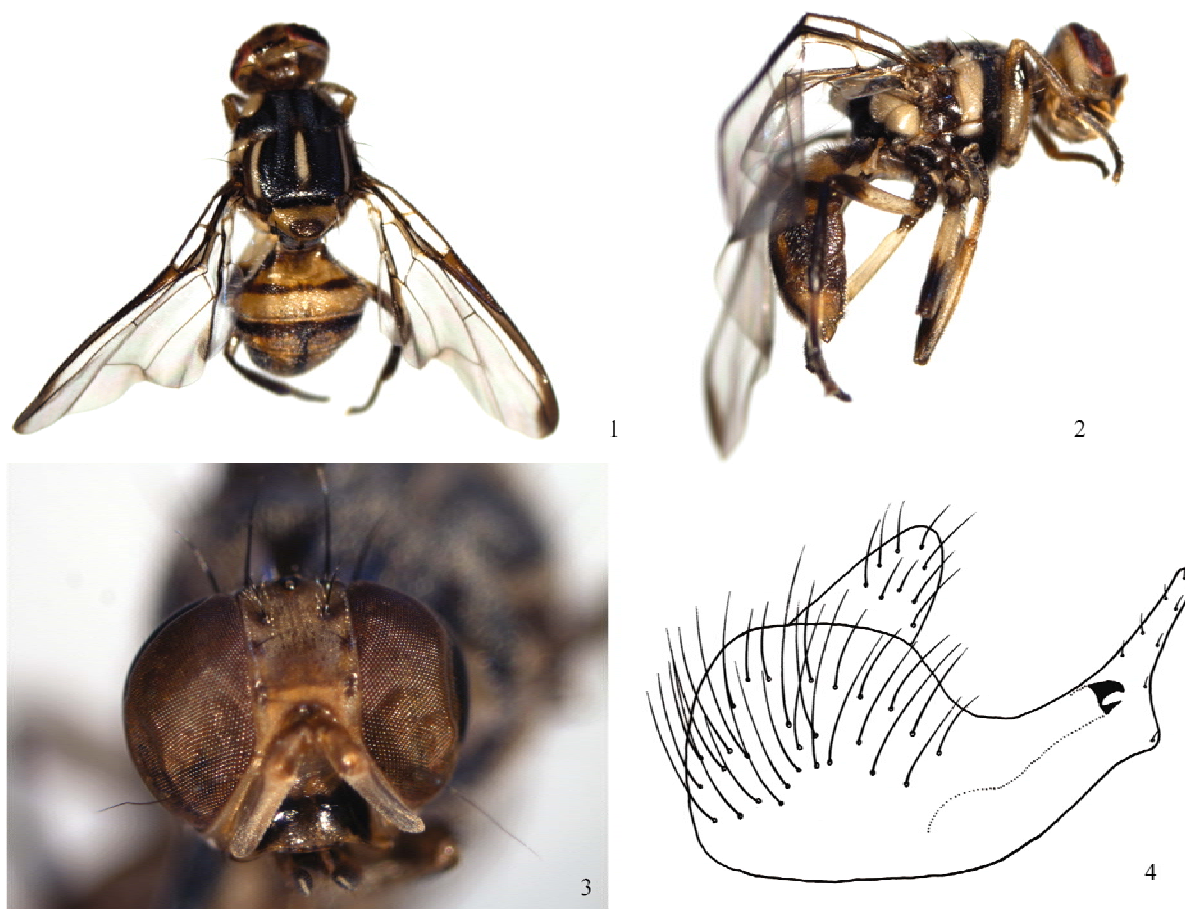
Holotype ♂, China, Jinghong (22.01° N, 100.48° E), Yunnan Province, 25 Oct. 2010, attracted to cue-lure, ZHANG Nan-Nan and GAO Shi-De. Paratype 1 ♂, the same data as holotype.

Distribution. China, Yunnan (Jinghong).

Host plant. Unknown.

Attractant. Cue-lure.

Remarks. It is similar to *B. (Zeugodacus) scutellata* in the wing pattern in male, it differs from *scutellata* in having facial big black spots triangular, fore femora fulvous with a big spot on 2/5 of outer apical surface, apical 2/5 of mid femora black predominantly; apical 1/3 of hind femora black.



Figs 1 – 4. *Bactrocera* (*Zeugodacus*) *proprescutellata* sp. nov., ♂ 1. Male adult in dorsal view. 2. Male adult in lateral view. 3. Head in front view. 4. Epandrium, cercus and surstylus in profile.

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中国铍果实蝇亚属分类研究及一新种记述 (双翅目, 实蝇科)

张南南¹ 陈家骅¹ 高世德²

1. 福建农林大学植保学院 福州 350002

2. 云南省热带作物科学研究所 景洪 666100

摘要 根据 2005 ~ 2010 年对中国境内实蝇调查的部分研究结果, 确认 *Zeugodacus* 亚属的实蝇种类。描述了 1 新种拟具条实蝇 *Bactrocera* (*Zeugodacus*) *proprescutellata* sp. nov., 提供 20 种实蝇的分种检索表。新种的正模及其副模标本保存于福建农林大学益虫研究所。

拟具条实蝇, 新种 *Bactrocera* (*Zeugodacus*) *proprescutellata* sp. nov. (图 1 ~ 4)

新种与具条实蝇 *B.* (*Zeugodacus*) *scutellata* 相似, 与其主

关键词 双翅目, 实蝇科, 铍果实蝇亚属, 新种, 中国.

中图分类号 Q969.456.8

要区别是: 新种颜具 1 对大型三角形黑斑, 在中部几乎相连; 前足腿节黄褐色且端部 2/5 具 1 大黑斑, 中足腿节端部 2/5 黑褐色, 后足腿节端部 1/3 黑褐色。

正模 ♂, 云南景洪, 2010-12-25, 张南南、高世德采。副模 1 ♂, 同正模。

词源: 本种因近似具条实蝇 *B.* (*Zeugodacus*) *scutellata* 而得名。